May 5, 2004

APPLICANT: WESTINGHOUSE ELECTRIC COMPANY

PROJECT: IRIS DESIGN PRE-APPLICATION REVIEW

SUBJECT: SUMMARY OF APRIL 15, 2004, CATEGORY 1 MEETING WITH WESTINGHOUSE ELECTRIC COMPANY TO DISCUSS THE IRIS PRE-APPLICATION REVIEW

On April 15, 2004, a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff and representatives of Westinghouse Electric Company (Westinghouse). The purpose of this meeting was to discuss Westinghouse's plans for the pre-application review of the IRIS reactor design. A list of meeting attendees is included as Attachment 1. Attachment 2 contains handouts from the NRC staff and Westinghouse provided at the meeting (ADAMS Accession Number ML041100654). A summary of the meeting is included below.

The NRC staff opened the meeting describing the range of activities underway in the new reactor licensing program. The Department of Energy (DOE) had, at the time of the meeting, received two responses to its November 19, 2003, solicitation for proposals for cost-sharing development of combined license applications (DOE has since received a third application). Those proposals refer to the AP1000, ESBWR, and ACR-700 reactor designs. The staff has informed the Commission that priority is given to activities supporting expected combined license (COL) applications, so these designs will receive the most resources and attention from the staff, along with the ongoing early site permit (ESP) reviews. As the staff tries to identify activities that make the most effective use of resources, some new reactor licensing activities which are not tied to a prospective COL application, such as the IRIS pre-application review, will receive lower priority.

Westinghouse personnel agreed that emphasis should be placed on the AP1000 review effort.

Overall, Westinghouse's goal is to obtain certification of IRIS in the 2008-2010 timeframe, with the certification review starting in early 2006. Westinghouse has identified two principal issues to be addressed before applying for certification of the IRIS design. First, Westinghouse would like to have NRC agreement that the IRIS test program is sufficiently comprehensive to support design certification. Westinghouse would like to have this agreement by the end of December 2004.

Westinghouse's second objective for agreement is on a regulatory process that would result in approval of the IRIS design with no requirement for emergency response planning. This is an objective for "Generation IV" reactors as defined by DOE. Westinghouse believes that IRIS will be shown to be sufficiently safe so that offsite emergency response planning will not be necessary. Interest in this topic is driven by the international partners in the IRIS project, not interest from power generating companies in the United States. The staff stated that changes to emergency response requirements are not being contemplated at this time and that relaxing these requirements for IRIS would be a policy decision requiring Commission approval.

Westinghouse expects to submit information on this topic in 2005, and hopes for agreement on the process for certification without emergency response planning by the end of that year. Removal of these requirements is not a prerequisite for certification, but would be beneficial to IRIS deployment.

Westinghouse presented an overview of the IRIS reactor design. The safety approach adopted for the project is "safety by design," with the intent of minimizing challenges to reactor safety and the consequences of any accidents. Westinghouse is modifying the configuration and design of the system as its design effort progresses.

The design is intended to minimize the number and size of penetrations into the reactor pressure vessel, with the intent of eliminating large pipe breaks from the design basis. Most of the reactor coolant system is contained completely within the vessel, with only relatively small (4-inch) piping penetrating the vessel. Safety systems are passive and automatically actuated, with no reliance on operator action. The heat sink is designed to provide cooling for seven days without operator intervention.

Westinghouse is developing a Phenomena Identification and Ranking Table (PIRT) to characterize the phenomena important to IRIS accident analysis. Westinghouse believes that phenomena important to IRIS response to transients are similar to other pressurized water reactors, so existing computer models can relatively easily be adapted to evaluate the IRIS design.

The staff emphasized the importance of comprehensive information from testing to support certification, and that it is the applicant's responsibility to provide this information in its application. Westinghouse personnel indicated that they understand this requirement, which results in their desire to have NRC agreement on the IRIS test program before significant resources are expended.

Westinghouse plans to submit the IRIS PIRT to the NRC in early Summer 2004. Participants in this meeting tentatively agreed that the next meeting should take place after receipt of that submittal, and the NRC staff has had an opportunity to familiarize themselves with the information.

Please direct any inquires concerning this meeting to Joseph Williams at 301-415-1470, or jfw1@nrc.gov.

/RA/

Joseph Williams, Senior Project Manager
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project No. 726

Attachments: 1. List of attendees
2. Meeting handouts

cc w/ atts: See next page

the process for certification without emergency response planning by the end of that year. Removal of these requirements is not a prerequisite for certification, but would be beneficial to IRIS deployment.

Westinghouse presented an overview of the IRIS reactor design. The safety approach adopted for the project is "safety by design," with the intent of minimizing challenges to reactor safety and the consequences of any accidents. Westinghouse is modifying the configuration and design of the system as its design effort progresses.

The design is intended to minimize the number and size of penetrations into the reactor pressure vessel, with the intent of eliminating large pipe breaks from the design basis. Most of the reactor coolant system is contained completely within the vessel, with only relatively small (4-inch) piping penetrating the vessel. Safety systems are passive and automatically actuated, with no reliance on operator action. The heat sink is designed to provide cooling for seven days without operator intervention.

Westinghouse is developing a Phenomena Identification and Ranking Table (PIRT) to characterize the phenomena important to IRIS accident analysis. Westinghouse believes that phenomena important to IRIS response to transients are similar to other pressurized water reactors, so existing computer models can relatively easily be adapted to evaluate the IRIS design.

The staff emphasized the importance of comprehensive information from testing to support certification, and that it is the applicant's responsibility to provide this information in its application. Westinghouse personnel indicated that they understand this requirement, which results in their desire to have NRC agreement on the IRIS test program before significant resources are expended.

Westinghouse plans to submit the IRIS PIRT to the NRC in early Summer 2004. Participants in this meeting tentatively agreed that the next meeting should take place after receipt of that submittal, and the NRC staff has had an opportunity to familiarize themselves with the information.

Please direct any inquires concerning this meeting to Joseph Williams at 301-415-1470, or jfw1@nrc.gov.

/RA/

Joseph Williams, Senior Project Manager
New Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project No. 726

Attachments: 1. List of attendees
2. Meeting handouts

cc w/ atts: See next page
ADAMS ACCESSION NUMBER: ML041210996-Package

OFFICE	PM:RNRP	SC:RNRP
NAME	JWilliams	LDudes
DATE	5/3/2004	5/3/2004

OFFICIAL RECORD COPY

Distribution for 4/15/04 Meeting Summary dated May 5, 2004

Distribution
Hard Copy
RNRP Rdg.
LDudes
JWilliams

E-mail
PUBLIC
DMatthews/FGillespie
RNRP Group
DE Branch Chiefs
DE Section Chiefs
OGC
ACRS/ACNW
TMensah
SBloom
JFlack
JJolicoeur, EDO
EThrom
HScott
SBajorek
YGHsii
JDanna
FEltawila

Attachment 1

Attendees

NRC/Westinghouse Meeting on the IRIS Pre-application Review

April 15, 2004

Name	Affiliation
Edward Throm	NRC
Harold Scott	NRC
Jim Lyons	NRC
Joe Williams	NRC
John Flack	NRC
Steve Bajorek	NRC
Y. Gene Hsii	NRC
Bojan Petrovic	Westinghouse
Charles Brinkman	Westinghouse
Charles Kling	Westinghouse
Larry Conway	Westinghouse
Luca Oriani	Westinghouse
Mario Carelli	Westinghouse
Milorad Dzodzo	Westinghouse
Paolo Ferroni	Westinghouse

IRIS

cc: Mr. Charles Brinkman
Westinghouse Electric Co.
12300 Twinbrook Parkway
Suite 330
Rockville, MD 20852

Mr. David Lochbaum
Union of Concerned Scientists
1707 H Street, NW
Washington, DC 20006-3919

Dr. Gail Marcus
U.S. Department of Energy
Office of Nuclear Energy, Science and Technology
NE-1, Room 5A-143
1000 Independence Avenue, SW
Washington, DC 20585

Mr. Paul Gunter
Nuclear Information & Resource Service
1424 16th Street, NW, Suite 404
Washington, DC 20036

Mr. Ron Simard
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

Mr. James Riccio
Greenpeace
702 H Street, NW, Suite 300
Washington, DC 20001

Mr. Gary Wright, Manager
Office of Nuclear Facility Safety
Illinois Department of Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

Mr. Mario D. Carelli
Westinghouse Electric Company
Science and Technology Department, 401 Building
1344 Beulah Road
Pittsburgh, Pennsylvania 15235-5083

Ms. Patricia Campbell
Winston & Strawn
1400 L Street, NW
Washington, DC 20005

Mr. Vince Langman
Licensing Manager
Atomic Energy of Canada Limited
2251 Speakman Drive
Mississauga, Ontario
Canada L5K 1B2

Mr. Paul Leventhal
Nuclear Control Institute
1000 Connecticut Avenue, NW
Suite 410
Washington, DC 20036

Mr. Jack W. Roe
SCIENTECH, INC.
910 Clopper Road
Gaithersburg, MD 20878

Mr. Thomas P. Miller
U.S. Department of Energy
NE-20, Rm. A286
Headquarters-Germantown
19901 Germantown Road
Germantown, MD 20874-1290

Mr. David Ritter
Research Associate on Nuclear Energy
Public Citizens Critical Mass Energy and Environmental Program
215 Pennsylvania Avenue, SE
Washington, DC 20003

Mr. Tom Clements
6703 Gude Avenue
Takoma Park, MD 20912

Mr. James F. Mallay, Director
Regulatory Affairs
FRAMATOME, ANP
3315 Old Forest Road
Lynchburg, VA 24501

Mr. Ed Wallace, General Manager
Projects
PBMR Pty LTD
PO Box 9396
Centurion 0046
Republic of South Africa

Mr. Russell Bell
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708